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SECRETARIA DA AGRICULTURA — S. PAULO - BRASIL

NEW OR LITTLE-KNOWN *TIPULIDAE* (DIPTERA) FROM SÃO PAULO, BRASIL — PART III (*)

by

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In continuation of the recording of the species of crane-flies of the State of São Paulo, I am at this time discussing certain unusually interesting Tipulidae that have been received for study from various sources, chiefly from officials and entomologists in the city of São Paulo. I am particularly indebted to members of the staffs of the Instituto de Higiene and the Departamento de Zoologia and herewith express my thanks and appreciation to Messrs. JOHN and FREDERICO LANE, R. F. D'ALMEIDA, J. D'AMICO, MESSIAS CARRERA, L. R. GUIMARÃES and LAURO TRAVASSOS FILHO. The types of most of the novelties will be returned to the Departamento de Zoologia; those of certain others specified in the text are retained in my own collection through the kindness of the collectors. A very few specimens from other states in southeastern Brasil are included in the discussion of certain of the species and for these I am further indebted to Mr. LÉRIO GOMES and Mr. FRITZ PLAUMANN. The present report brings the total number of species recorded in this series of papers to 120.

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TIPULINAE

81. *Brachypremna brevigenua*, sp. n.

Size medium (wing, male, 20.5 mm.); pronotum and mesonotum almost uniform brown, opaque, the postnotum and pleura uniform yellow, without pattern; femora and tibiae brown, the genua rather narrowly whitened; tips of tibiae whitened, the amount subequal on all legs; basitarsi brown, the broad tips and remainder of tarsi yellow; wings with the dark pattern pale and inconspicuous; stigma brownish yellow, narrowly ringed with darker brown; basal abdominal tergites obscure yellow, the outer segments with a more or less distinct darkened sublateral stripe, the basal rings more yellow; basal sternites clear light yellow, without pattern, the outer sternites with a very vague dusky cloud at near midlength; male hypopygium with the tooth of the dististyle unusually straight, its tip narrowly obtuse.

♂. — Length, about 16 mm.; wing, 20.5 mm.

Frontal prolongation of head brownish yellow, very slightly darker on ventral half; nasus conspicuous, concolorous, tufted with yellow setae; palpi uniformly brown. Antennae with basal three segments obscure brownish yellow, the outer segments uniformly brownish black. Head darker brown than the front, unpatterned.

Pronotum and mesonotum opaque brown, the praescutal stripes very poorly defined, indicated chiefly by a capillary pale median vitta separating the intermediate pair; scutum concolorous with praescutum; scutellum more brownish testaceous; mediotergite and pleurotergite uniformly yellow pollinose, unpatterned. Pleura uniformly yellow, without distinct pattern. Halteres with stem yellow, knob infuscated. Legs with coxae reddish yellow, the fore pair a trifle darker; trochanters yellow; femora brown, restrictedly brightened basally, the tips abruptly but narrowly whitened, occupying about one-fifteenth on fore legs, one-twentieth of segment on hind pair; tibiae brownish black, the bases abruptly whitened, from one-half to two-thirds as extensive as the pale femoral tips; tips of tibiae more extensively whitened, subequal in amount on all legs and including about the distal one-fifteenth of segment; basitarsi brown, the broad distal portion and remainder of tarsi paling to yellow; claws elongate, tooth relatively low. Wings with the pat-

tern unusually pale and inconspicuous; stigma brownish yellow, narrowly ringed with darker brown; certain veins of distal half of wing, but specially beyond the cord, narrowly seamed with brown, becoming more extensive and darker at wing tip; brown seams along vein *M* scarcely indicated; cream-colored spots near ends of cells *R*₃ and *R*₅ conspicuous; veins brown. Venation: *Rs* relatively long, square at origin; petiole of cell *M*₁ about one-half *m*.

Basal abdominal tergites obscure yellow, the succeeding segments with a more or less distinct darkened sublateral stripe, leaving a pale median vitta; basal tergal rings more or less yellowed; basal sternites clear light yellow, entirely unpatterned; on outer sternites with a very vague dusky cloud at near the center of the segment, not reaching any margin and with its borders very indistinct; hypopygium with basistyle weakly infuscated. Male hypopygium with its various parts more or less injured and it may be described in general terms only. Dististyle with the tooth of the outer surface weak and unusually straight, entirely glabrous, the tip narrowly obtuse; basad of this spine, the style with abundant long delicate setae.

HOLOTYPE, ♂, Ribeirão Pires, Barreira das Camelias, November 1941 (D'AMICO).

The species is most nearly allied to *Brachypremna itatiayana* Alexander 1944, differing conspicuously in the unpatterned thoracic postnotum and pleura and in the entirely different pattern of the thorax and abdominal sternites.

82 *Megistocera longipennis* (Macquart 1830)

Porto Cabral, March 1944 (CARRERA & TRAVASSOS). For a complete discussion of the conditions at and near Porto Cabral, the very fine paper by Travassos should be consulted. (*)

83. *Macromastix carrerana*, sp. n.

Allied to *lemniscata*; general coloration of the thoracic notum dark brown; pleura chiefly dark, the mesepisternum paler to form

(*) TRAVASSOS FILHO, LAURO. Excursão científica a Porto Cabral, margem Paulista do Rio Paraná. Arquiv. de Zoologia do Estado de São Paulo, 4, art. 1: 1-32, 21 figs., weather graph; 1944.

a transverse girdle; antennae (male) longer than the body, the erect pale setae relatively long; tibiae and tarsi uniformly blackened; wings yellow, the prearcular field and narrow costal border blackened; a small group of macrotrichia in outer end of cell R_3 ; abdomen variegated yellow and black; male hypopygium with the notch of the tergite relatively small.

♂. - Length, about 12 mm.; wing, 11 mm.; antenna, about 13.5 mm.

Frontal prolongation of head short, without nasus; above chestnut-brown, narrowly bordered by darker and with a capillary black median area; basal segment of palpus obscure yellow, the remainder passing into black. Antennae (male) longer than either the body or wing; scape and pedicel reddish brown, flagellum pale yellow, the outer two or three segments infuscated; flagellar segments elongate-cylindrical, provided with dense erect pale setae that exceed in length the diameter of the segment; a few scattered black verticils, including one at extreme apex of segment. Head above brown; anterior vertex narrow, the eyes correspondingly large.

Pronotum dark brown. Mesonotum deep chestnut-brown, polished, the scutal lobes and postnotum somewhat darker; praescutal setae small and sparse, longer near the suture. Pleura with the propleura and mesepimeron dark brown, the mesepisternum much lighter, obscure yellow, forming a pale transverse girdle; ventral pleurotergite and metapleura more brownish yellow. Halteres with stem yellow, knob brownish black. Legs with the fore and middle coxae blackened, the posterior pair obscure yellow; trochanters obscure yellow; femora brownish yellow, somewhat clearer yellow before the narrowly blackened tips; tibiae and tarsi uniformly black. Wings with most of surface yellow, the prearcular field, cells C and Sc , stigma and a confluent seam over the anterior cord, together with a very narrow costal seam to the wing tip blackened; this blackened margin barely invades the bases of cells R and M ; very weak and inconspicuous brown clouds at fork of M_{3+4} and at margin over tip of Cu ; veins yellow, darker in the patterned areas. Macrotrichia of veins beyond cord abundant and conspicuous, black;

a small group of macrotrichia in outer end of cell R_3 . Venation: R_{1+2} persistent; R_s short, about three-fourths $m-cu$; m subequal in length to petiole of cell M_1 ; cell 2nd A relatively wide.

Abdomen with the first segment and most of second light yellow, the posterior border of second tergite broadly blackened, the succeeding segments more extensively so; the blackened triangular areas extend basad virtually to the cephalic border of each segment; lateral tergal margins blackened, the sublateral obscure yellow ground areas gradually becoming more restricted in area and finally obliterated; sternites yellow, the posterior borders more darkened; hypopygium and the segments immediately preceding uniformly blackened. Male hypopygium generally as in *lemniscata* but with the tergal notch much smaller.

HOLOTYPE, ♂, Guarujá, altitude 50 meters, January 18-30, 1942 (CARRERA); ALEXANDER Collection through CARRERA.

This interesting species is named for my friend, Mr. MESSIAS CARRERA. The two nearest relatives are *Macromastix exempta* (ALEXANDER 1936) and *M. lemniscata* (ALEXANDER 1929), described as species of *Habromastix* Skuse. In the light of the recent accession of numerous Tropical American species of *Macromastix*, it seems advisable to refer this group of three species to this latter genus. The present fly is closest to *lemniscata*, differing in the longer setae of the antennae; distinctive leg pattern, including the uniformly blackened tibiae and tarsi; the more restricted dark wing pattern; presence of macrotrichia in outer end of cell R_3 , and slight differences in the structure of the male hypopygium, as above indicated.

84. *Macromastix exempta* (Alexander 1936)

Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

85. *Macromastix lustralis* (Alexander, 1936).

Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

86. *Tanypremna* (*Tanypremna*) *salome*, sp. n.

Size medium (wing, male, 17.5 mm.); general coloration of thorax uniformly brown, the praescutum without impressed lines; femora obscure yellow, the tips narrowly blackened; tibiae black, obscure yellow on proximal third, with a broad, pale yellow, sub-terminal ring; all tarsi uniformly black; wings deep fulvous brown, restrictedly patterned with darker, including seams over cord and outer end of cell *1st M*₂; cell *M*₁ petiolate; abdomen reddish brown, the lateral borders of tergites and posterior margins of sternites narrowly blackened; hypopygium with tergite large, the posterior border with a deep median notch; lateral lobes broad; inner dististyle with about a score of blackened spines on distal half.

♂. - Length, about 29 mm.; wing, 17.5 mm.; abdomen alone 22 mm.

Frontal prolongation of head short, very stout, particularly at base, sloping directly upward to the vertex, without indication of a notch; obscure testaceous yellow; nasus distinct; palpus with basal segment light brown, the outer segments brownish black. Antennae short, 12-segmented; basal seven or eight segments brownish yellow, the outer ones passing into black; basal flagellar segments suboval to cordiform, the verticils elongate, unilaterally distributed, exceeding the segments in length; outer four segments cylindrical, becoming progressively more elongate, the terminal one very long, subequal to the preceding three taken together. Head broad, particularly behind, dull brown; anterior vertex wide, approximately five or six times the diameter of the scape; vertical tubercle low, delimited posteriorly by a V-shaped suture.

Pronotum and mesonotum almost uniformly brown, pronotum more yellowed laterally; praescutum with indications of darker stripes, particularly an intermediate pair; no impressed lines on praescutum; scutellum more brownish black, parascutella paler; mediotergite with more than the cephalic half dark brown, the posterior portion golden-yellow, with indications of a central paler line; pleurotergite chiefly darkened. Pleura brownish yellow, without distinct pattern; dorsopleural region a little darker. Halteres short, with conspicuous knobs; stem light brown, knob darker. Legs with coxae brown, fore pair somewhat darker; trochanters obscure

brownish yellow; femora obscure yellow, the tips narrowly and inconspicuously blackened; tibiae obscure yellow on proximal third, the remainder black, enclosing a broad pale yellow ring, this subequal to or a little more extensive than the blackened apex; tarsi of all legs uniformly black; claws with a conspicuous tooth. Wings relatively broad; ground color deep fulvous brown, restrictedly patterned with darker; prearcular and costal fields darker brown; stigma small, still darker; brown seams over cord and outer end of cell 1st M_2 ; wing-tip slightly infuscated; outer medial veins narrowly seamed with brown; a dusky wash in cell M behind vein M at near midlength; in cases, at this point, with one or two short spurs from the vein directed caudad; anal cells weakly infuscated; veins reddish brown. Venation: Sc_1 , free tip of Sc_2 and R_{1+2} about equidistant from one another at margin; R_s nearly straight, oblique to longitudinal in position, about two-thirds R_{2+3} ; cell M_1 petiolate, this about one-half m ; veins M_1 and M_2 a little convergent at margin, slightly narrowing the cell; M_{3+4} about one-third longer than the basal section of M_{1+2} ; $m-cu$ close to fork of M_{3+4} ; cell 2nd A wide.

Abdomen moderately long, reddish brown, the tergites narrowly darkened on lateral borders, the caudal portions of sternites similarly ringed with dark; hypopygium, especially the basistyle, slightly more yellowish. Male hypopygium (Fig. 1) with the tergite, $9t$, large, its posterior margin conspicuously notched, the lateral lobes broadly obtuse. Outer dististyle, od , broadly flattened, its width about two-thirds the length, the tip obtuse (style shown separately in figure). Inner dististyle, id , with its distal portion narrowed, the tip slightly decurved; outer margin of distal half of blade with nearly a score of short black spines from short-cylindrical reddened bases.

HOLOTYPE, ♂, Guarujá, altitude 50 meters, on foliage, January 28, 1942 (CARRERA).

Tanypremna (*Tanypremna*) *salome* is entirely different from the other species of the genus so far described. The combination of black tarsi and ringed tibiae marks the present fly as being unusually distinct. The presence of weak spurs of veinlets jutting from vein M into the cell indicates a condition best developed in



the subgenus *Pehlkea* Enderlein but the assignment of the fly to the typical subgenus appears correct.

87. *Holorusia (Holorusia) calliope*, sp. n.

Allied to *jujuyensis*; size relatively small (wing, about 15 mm.); outer flagellar segments blackened; mesonotal praescutum obscure yellow, with four brownish gray stripes that are narrowly bordered by darker brown, the inner border of the intermediate pair of stripes subobsolete; thoracic pleura striped; femora yellow, the tips narrowly brown, claws of male bidentate; wings dusky, with a restricted yellow pattern; abdominal tergites reddish brown with pale caudal borders; male hypopygium with tergite produced medially into a flattened-depressed plate, the apex entire; near center of plate with an elongate group of about fifty black setae; dististyle with its outer lobe or style unusually short; posterior portion of main blade of style with the outer angles produced into a lobe or spinous point.

♂. - Length, about 12 mm.; wing, 15 mm.; antenna, about 3.8-3.9 mm.

♀. - Length, about 14 mm.; wing, 14.5 mm.

Frontal prolongation of head brownish yellow above, darkened laterally at apex; nasus long and conspicuous; palpi black. Antennae in male relatively short; scape pale testaceous yellow; pedicel light brown; first flagellar segment orange, the second a trifle darker, the remaining segments uniformly dark brown; in female, only the scape and pedicel obscure yellow, the flagellum dark brown, the antennae shorter than in male. Head above dark fulvous brown, the front and very narrow orbits gray; vertical tubercle relatively high but narrow.

Pronotum light yellow above, more obscured on sides. Mesonotal praescutum with the ground obscure yellow, clearer yellow on humeral region; four brownish gray stripes that are narrowly bordered by darker brown, the mesal borders of the intermediate pair less evident or not darkened; lateral margins of intermediate stripes at the cephalic ends more expanded to virtually isolate the posterior interspaces; scutum darkened on lateral portions of lobes, the remainder chiefly pale but with indications of weak darkenings;



scutellum and postnotum dark brown, heavily pruinose, leaving darkened central stripes on the scutellum and cephalic two-thirds of mediotergite; pleurotergite, including the katapleurotergite, extensively darkened. Pleura light yellow ventrally, the central portion light brown, including the upper half of the entire mesopleura; dorsad of this, including the propleura and ventral half of the dorsopleural membrane with a more conspicuous blackened stripe that extends nearly to the wing-root; dorsal portion of dorsopleural membrane light yellow. Halteres with stem yellow, knob weakly darkened. Legs with the coxae and trochanters yellow; femora yellow basally, becoming more obscured outwardly, the tips rather narrowly brown; tibiae light brown, the tips narrowly darkened; tarsi passing into black; claws of male bidentate, of female simple. Wings of approximately the same pattern type as *zikani* but differing in many details; general pattern darker, the amount of yellow restricted, most abundant in the cephalic basal quarter of wing, contrasting more evidently with the darkened ground; darkened area in base of cell *Cu* short; darkened areas in outer end of cell *1st A* more nearly unbroken.

Abdomen with basal segment obscure yellow, the succeeding segments reddish brown, becoming still darker outwardly, the caudal borders narrowly pale; sternites brownish yellow, narrowly darker medially; hypopygium obscure yellow. Male hypopygium (Fig. 2) with the tergite, *9t*, produced medially into a flattened-depressed yellow plate that is a little widened outwardly, its caudal border very gently convex, not notched; in center of plate an elongate group of approximately fifty long black spinous setae. Dististyle, *d*, with the outer lobe or style very short-clavate, its apex obtuse, before tip with numerous blackened retrorse setae; main body of inner lobe of style about as figured; posterior portion more or less quadrate in outline, each outer angle produced into a lobe or spine, the upper outer one more acute; along ventral margin of appendage back from the lower outer lobe with a marginal series of conspicuous black setae; beak or anterior portion of style produced into a more elongate subglabrous lobe, representing the usual beak and a more basal smaller lobe.

HOLOTYPE, ♂, Guarujá, altitude 50 meters, January 21, 1942

(CARRERA); ALEXANDER Collection through CARRERA. ALLOTOPO-TYPE, ♀, pinned with type.

This fly is quite distinct from the various other regional species that center about *Holorusia* (*Holorusia*) *juyensis* Alexander, 1920, and *H. (H.) zikani* Alexander 1936. It differs from all of these in the structure of the male hypopygium, particularly the tergite and the dististyle.

88. *Holorusia* (*Holorusia*) *phaëton*, sp. n.

Allied to *juyensis*; size relatively small (wing, male, 15.5 mm.); antennae relatively short; mesonotal praescutum with four dark brown stripes; thoracic pleura conspicuously striped with pale yellow and dark brown; halteres uniformly yellow; posterior coxae blackened; femora yellow, the tips narrowly infuscated; wings marbled, about as in other members of the group; abdomen chiefly orange, the sides of the more basal tergites blackened, on the intermediate tergites this broken into dark basal spots; male hypopygium with the ninth tergite produced into a flattened yellow plate that is bilobed by a small narrow notch; base of dististyle swollen and provided with a dense group of blackened spinous setae, exceeding fifty in number.

♂. - Length, about 14 mm.; wing, 15.5 mm.; antenna, about 3.3 mm.

Frontal prolongation of head relatively short, about one-half the length of remainder of head, light chestnut brown above, darker on the sides; nasus distinct; palpi with basal two segments black, remainder broken. Antennae 12-segmented, relatively short; scape very pale yellow, a little darker at tip; pedicel yellow; flagellum passing into orange-brown; intermediate segments short-cylindrical, the length about twice the width. Head above light orange, including the small vertical tubercle; posterior vertex pale brown, sparsely pruinose.

Pronotum pale yellow, narrowly darkened on sides. Mesonotal praescutum with the ground and restricted interspaces gray, the median interspace more obscure orange; extreme lateral border of humeral region blackened; remainder of disk with four entire dark brown stripes; scutal lobes extensively dark brown, the median



area gray pruinose, with a narrow dark brown triangle, its point directed backward; scutellum gray pruinose on a brown ground, parascutella chiefly dark brown; mediotergite light gray, infuscated medially and on posterior margin; pleurotergite with anapleurotergite pale brown, the protuberant katapleurotergite more blackened, its cephalic portion sparsely pruinose. Pleura conspicuously striped with pale yellow and dark brown; a dorsal brown stripe extends from the propleura across the dorsal pleurites to the pleurotergite, as described; ventral dark stripe less distinct, including the ventral sternopleurite, ventral meron and, especially, the blackened bases of posterior coxae; the yellow stripes include the dorso-pleural region, the ventral edge of which is narrowly blackened, and a much broader, more silvery pruinose stripe that separates the two dark bands above described. Halteres uniformly yellow. Legs with coxae pale brownish yellow, the posterior pair blackened, as described; trochanters yellow; femora yellow, the tips narrowly and rather inconspicuously infuscated; tibiae brownish yellow, the tips narrowly and gradually darker; tarsi passing into black. Wings of the general type of *jujuyensis* and *zikani*; ground color grayish brown, marbled with darker brown and whitish subhyaline; the darkest areas include the stigma; a spot at near two-thirds the length of cell *M*; another on basal fourth of *Cu*, with other marginal clouds in the cubital and anal fields; cell *Sc* uniformly darkened, cell *C* paler brown; the largest pale areas are prestigmal, poststigmal, across basal two-fifths of cell *1st M*₂ and a major marking in the basal half of cell *M*, crossing vein *Cu* into cell *Cu*; other pale marginal areas in anal cells; all veins narrowly bordered by pale; veins yellow, somewhat darker in the clouded portions. Macrotrichia of veins of outer medial field lacking or virtually so. Venation: *R*₁₊₂ straight; *Rs* shorter than *m-cu*, the latter beyond midlength of *M*₃₊₄.

Abdomen chiefly orange-yellow, the sides of the basal tergites conspicuously blackened, on the intermediate segments becoming broadly interrupted and appearing as darkenings on the anterior portion of the tergites, these becoming progressively smaller behind and finally obsolete at about the sixth segment; remainder of abdomen, including the hypopygium, orange-yellow. Male hy-



popygium (Fig. 3) with the tergite, *9t*, narrowed posteriorly, the apex further produced into a depressed-flattened yellow blade that is partially divided by a narrow U-shaped median notch; on sides of tergite, at base of plate, a marked concentration of strong black setae, a few encroaching onto the sides of the plate. Dististyle, *d*, with the outer lobe or style strongly clavate, the expanded head with approximately forty to fifty strong black retrorse setae; inner body of style with its base strongly bulbous and densely provided with black spinous setae, totalling in excess of fifty, those toward the outer portion of the hemisphere shorter and stouter; a number of longer reddish setae interspersed, these more numerous and unmixed on the outer portions of the lobe; apical blade or beak of style moderately stout, bilobed, the outer apical lobe terminating in two small blackened teeth, the lower apical angle obtusely rounded.

HOLOTYPE, ♂, Serra da Cantareira, altitude 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

The present fly is very different from the various related species of the *jujuyensis* complex in southeastern Brazil. It differs particularly in the structure of the male hypopygium, especially the tergite and dististyle, as described. It is perhaps closest to *Holorusia* (*Holorusia*) *calliope*, sp. n., yet entirely distinct.

89. *Ozodicera* (*Ozodicera*) *caudifera*, sp. n.

Size relatively large (wing, male, over 21 mm.); general coloration of mesonotum yellow, the praescutum with three brownish black stripes, and an additional blackened border back to the wing-root; flagellar branches subequal in length to the segments; femora fulvous yellow, the tips undarkened; wings brownish gray, the small stigma medium brown; abdomen fulvous brown, virtually unpatterned, the subterminal segments darkened; male hypopygium with the apex of basistyle produced into a short bilobed blackened structure; outer dististyle a broadly flattened blade, the outer margin near base produced into a tail-like extension.

♂. - Length, about 25 mm.; wing, 21,5 mm.

Frontal prolongation of head uniformly fulvous, relatively

long, only a little shorter than the remainder of head; nasus short and broad, its length less than the width across the base, the apex obtusely rounded; palpi yellow. Antennae chiefly yellow, the apices of the flagellar branches weakly infuscated; terminal simple segments yellow; longest branches subequal in length to the segments that bear them, those of the outer segments a little shorter; branches subacute, provided with terminal setae and a group of four or five other bristles before apex, these evidently representing the position of the atrophied lateral branch. Front obscure brownish yellow, the very reduced anterior vertex black, the posterior vertex and occiput again brownish yellow; eyes very large; anterior vertex at its narrowest point only about as wide as three rows of ommatidia.

Pronotum brownish yellow. Mesonotal praescutum with the restricted ground obscure brownish yellow, conspicuously patterned with brownish black, including three shiny stripes and an additional lateral blackening that extends caudad to the wing root; posterior interspaces more obscured than the remainder of ground; scutum chiefly dark brown, the median region, with the scutellum, somewhat paler; postnotum obscure brownish yellow, unpatterned, the pleurotergite clearer yellow. Pleura, including the dorsopleural membrane, yellow, unpatterned. Halteres reddish yellow, knobs weakly darkened basally, the apices pale. Legs with the coxae brownish yellow; trochanters yellow; femora fulvous yellow, their tips undarkened; tibiae darker reddish brown; tarsi passing into black; tibial spurs elongate, black, the basal third reddened. Wings brownish gray, the prearcular field deep yellow; cells *C* and *Sc* slightly more brownish yellow; stigma small, medium brown; veins brown, more yellowed in the brighter fields; veins glabrous. Venation: *Rs* about one-third longer than R_{2+3} ; tip of R_{1+2} pale but evident; cell *1st M*₂ large.

Abdomen fulvous brown, virtually unpatterned, the outer segments somewhat darker brown; subterminal segments brown, hypopygium brownish yellow. Male hypopygium (Fig. 4) with the posterior emargination of the tergite, *9t*, narrowly U-shaped, a little wider than the lateral lobes. Basistyle, *b*, at apex produced into a short bilobed blackened structure that is microscopically roughened. Outer dististyle, *od*, a broadly flattened blade, its tip



obtuse; at base of outer margin produced into a slender tail-like extension that bears a few long setae. Inner dististyle, *id*, dilated, suboval on basal half, the outer portion strongly narrowed; tip bidentate, the shorter tooth broad and obtuse at tip, the other more pointed (dististyles are shown as separated in the figure). Gonapophyses not conspicuously developed.

HOLOTYPE, ♂, Boracea, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

This species is most nearly related to *Ozodicera* (*Ozodicera*) *nigromarginata* Alexander 1938, from which it differs in the venation and in the structure of the male hypopygium, especially the tail-like extension of the outer dististyle.

90. *Tipula* (*Microtipula*) *decolorata* (Alexander 1935).

Serra da Cantareira, altitude about 900 meters. December 1940 (GUIMARÃES & TRAVASSOS).

LIMONIINAE

LIMONINI

91. *Limonia* (*Limonia*) *deceptrix*, sp. n.

Allied to *roraimae*; general coloration of body yellow or greenish yellow; pronotum weakly infuscated above; scutellum and mediotergite restrictedly patterned with brown; legs beyond the trochanters black, the tips of the femora conspicuously light yellow; wings light yellow, more saturated in the costal and outer radial fields, patterned with dark brown areas and paler brown marginal washes; stigma with about four trichia, all basad of vein R_2 ; cell $1st\ M_2$ longer than vein M_{1+2} beyond it; abdomen greenish yellow, the intermediate segments with their lateral and caudal borders more blackened; cerci slender.

♀. - Length, about 8 mm.; wing, 8.5 mm.

Rostrum and palpi black. Antennae with scape and pedicel black; remainder of antenna broken. Head gray; anterior vertex very narrow, about one-half the diameter of scape.

Pronotum weakly infuscated above, yellow on sides. Mesonotum almost uniformly yellow, the praescutum with a more or less distinct greenish yellow central stripe that is bordered on either side by a narrow pale brown vitta that becomes obsolete at midlength of the sclerite; scutellum and central portion of mediotergite more infuscated. Pleura and pleurotergite uniformly light yellow, unpatterned. Halteres with base of stem yellow, remainder broken. Legs with the coxae and trochanters light yellow; femora black, the tips rather broadly and conspicuously light yellow, the amount subequal on all legs; tibiae and tarsi uniformly black; claws conspicuously toothed, there being three major denticles, the outermost largest. Wings light yellow, restrictedly but conspicuously patterned with dark brown areas and paler brown washes; costal border, particularly cell *C*, darker; outer radial cells and vein *Cu* more saturated butter-yellow; the darkest brown marks include the origin of *Rs*; fork of *Sc*; cord, as far caudad as vein *Cu*, and outer end of cell 1st *M*₂; small marginal spots at ends of veins *R*₃ to 2nd *A*, largest in the radial field; stigma paler brown, deeper in color over *R*₁₊₂ and *R*₂; paler brown washes near outer ends of cells *M*₃ to 2nd *A*, inclusive, especially adjoining the veins; veins yellow, dark brown in the infuscated portions. Stigma with about four trichia, all lying basad of vein *R*₂. Venation: *Sc*₁ ending nearly opposite three-fourths the length of *Rs*, *Sc*₂ a short distance from its tip; *Rs* angulated at origin; free tip of *Sc*₂ about one-third longer than *R*₂; cell 1st *M*₂ longer than distal section of *M*₁₊₂; *m-cu* just before fork of *M*.

Abdomen with basal segments strongly tinged with greenish, the third and succeeding segments somewhat more infuscated or blackened, particularly the caudal and lateral borders of the intermediate segments; sternites greenish yellow. Ovipositor with cerci slender, strongly upcurved; hypovalvae much deeper and more powerful, straight or nearly so.

HOLOTYPE, ♀, Juquiá, April 1941 (JOHN LANE); ALEXANDER Collection through LANE.

The most similar described species is *Limonia* (*Limonia*) *roraimae* Alexander, which is still known only from the summit of Mount Roraima, southeastern Venezuela. This differs particularly

in the coloration of the legs and in slight details of pattern of the body and wings.

92. *Limonia (Geranomyia) recondita* (Alexander 1921)

Juquiá, March 1941 (JOHN LANE). A little smaller than more northern specimens but agreeing closely in all essentials, including the structure of the male hypopygium.

93. *Helius (Helius) fragosus* Alexander 1927

Juquiá, altitude 300 meters, February 22, 1941 (TRAVASSOS). Barreira das Camélias, November 1941 (D'AMICO).

94. *Helius (Helius) micracanthus*, sp. n.

Belongs to the *albitarsis* group, allied to *rectus*; size small (wing, male, 4.5 mm.); general coloration of thorax medium brown, of abdomen brownish black; legs brown, the outer tarsal segments, including the distal third of basitarsi, white; wings a medium brown tinge, stigma pale; cell *1st M*₂ short and broad, its length only a little greater than the maximum width; *m-cu* at near two-thirds the length of lower face of cell; male hypopygium with the dististyles terminal, the outer style small, its subterminal spine reduced to a tubercle; inner dististyle with its outer half narrowed but nearly in alignment with the basal half; spines of phallosomic plate flatter and weaker than in *rectus*.

♂. — Length, about 5 mm.; wing, 4.5 mm.

Rostrum and palpi black, the former nearly as long as the remainder of head. Antennae short, brownish black; basal flagellar segments short and crowded, the outer ones more elongate; verticils of intermediate segments long, approximately twice the segments. Head brownish black.

Pronotum dark brown. Mesonotum almost medium brown, without pattern, the pleura scarcely paler. Halteres dirty white. Legs with the coxae pale brown; trochanters obscure brownish white; remainder of legs brown, the outer third of basitarsi and remaining tarsal segments white. Wings with a medium brown suffusion; stigma relatively large but pale and inconspicuous; veins

pale brown. Venation: Branches of R_s gradually diverging, cell R_3 at margin a little less than twice that of R_2 ; $r-m$ short but present; cell $1st\ M_2$ short and broad, more so than in *rectus*, the length only a little greater than the maximum width, the cell shorter than vein M_4 ; $m-cu$ at near two-thirds the length of lower face of cell $1st\ M_2$, almost in transverse alignment with $r-m$.

Abdomen, including hypopygium, brownish black. Male hypopygium (Fig. 7) with the basistyle, b , unprovided with lobes. Dististyles terminal in position, the outer, od , small, its subterminal spine unusually reduced, appearing as a small tubercle some distance back from the strong curved apex; outer surface of style with two or three weak scattered setae. Inner dististyle, id , about one-half longer than the outer style, almost straight, as in *rectus*, the more slender outer half much narrower than in *rectus*; the group of pale spines on lower edge near the base, as found in various species of the group, here reduced to three or four scattered points. Spines of phallosomic plate, p , flatter and weaker than in *rectus*, appearing as slightly compressed blades, the tips narrowly acute. Aedeagus moderately coiled, the base of the coil much expanded.

HOLOTYPE, ♂, Juquiá, altitude 300 meters, February 22, 1941 (TRAVASSOS).

The most similar regional species is *Helius (Helius) rectus* Alexander 1945, which differs chiefly in the details of venation and structure of the male hypopygium, especially of the dististyles and phallosomic spines, as compared above. The fly is among the smallest members of the *albitarsis* group so far discovered.

95. *Helius (Helius) perpallidus* Alexander 1932.

Boracca, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

HEXATOMINI

96. *Epiphragma (Epiphragma) nigripleuralis*, sp. n.

Thoracic pleura blackened, concolorous with the broad darkened lateral and cephalic borders of the praescutum; coxae black, their tips pale yellow, remainder of legs yellow; wings fulvous

brown, with a relatively inconspicuous pale brown pattern; abdominal tergites medium brown, vaguely patterned with yellowish; hypopygium brownish yellow to yellow; interbase not recurved at apex; outer dististyle near outer end with three or four acute spinous points.

♂. - Length, about 8.5-9 mm.; wing 10-11 mm.; antenna, about 2 mm.

♀. - Length, about 9.5-10 mm.; wing, 9-10 mm.

Rostrum obscure yellow pollinose; palpi black. Antennae with scape and pedicel black, the former more or less pruinose; fusion-segment orange-yellow, remainder of flagellum pale brown; fusion-segment including two segments, with a partial third; outer flagellar segments long-cylindrical, somewhat exceeding their verticils in length. Head brownish gray, the center of the vertex more darkened; posterior orbits paler.

Pronotum dark brown. Mesonotal praescutum with the sides and the cephalic third or fourth brownish black, confluent with the blackened pleura and contrasting conspicuously with the abruptly pale buffy yellow to weakly cinereous remainder of praescutum, with a capillary dark median vitta that extends more or less distinctly to the abdomen, in some individuals more broken than in others, especially on the scutellum; in cases, the lateral praescutal stripes faintly indicated; remainder of mesonotum similarly buffy, the scutal lobes weakly darkened, especially on the lateral portions; posterior portion of the mediotergite, and the pleurotergite, blackened. Pleura blackened. Halteres yellow, apex of knob weakly darkened. Legs with the coxae blackened, only the tips pale yellow, narrowest on the fore legs, broadest on the posterior coxae where it includes nearly the distal third; remainder of legs yellow, unpatterned, or, in cases, with the least possible indication of a darkened subterminal femoral ring; claws (male) with a strong basal spine. Wings light fulvous brown, clearer yellow along the costal border into the outer radial field; an extensive but unusually pale brown pattern that is relatively inconspicuous against the ground, the costal areas darker; pattern in part ocelliform, with ocelli centering at the arculus, origin of R_s , fork of Sc , and more brokenly over the fork of M_{1+2} and tip of R_{1+2} ; marginal brown spots small but darker



black, the fusion-segment orange-yellow; knobs of halteres weakly infuscated; coxae black, their tips abruptly pale yellow; remainder of legs yellow, the femora with a dark brown subterminal ring; claws (male) with a conspicuous basal spine; wings obscure brownish yellow, patterned with brown, the markings in part ocelliform but not broken into dots; cell *2nd A* with from six to eight marginal dark areas, cell *Cu* with a single one at near midlength; abdominal tergites dark brown, basal sternites with yellow areas on posterior portions; male hypopygium with the tergal lobes low, separated by a broad shallow emargination; outer dististyle with its outer margin conspicuously serrate; interbase a simple sinuous spine, its tip not recurved.

♂. - Length, about 7.5-8 mm.; wing, 8-9 mm.; antenna, about 1.8-1.9 mm.

♀. - Length, about 8.5 mm.; wing, 8.5 mm.

Rostrum of male obscure yellow, of female more blackened; palpi black. Antennae short in both sexes; black, the fusion-segment bright orange-yellow; fusion-segment involving a partial fusion of three segments; outer flagellar segments subcylindrical, elongate. Head with central portion of dorsum brownish gray, the front and orbits paler, more evidently so in the paratype.

Pronotum brown medially, patterned with obscure yellow, appearing as paired spots on the scutum, the scutellum more uniformly yellow. Mesonotal praescutum with the ground dark chestnut, almost blackened on sides, with four buffy yellow pollinose stripes that are separated by narrow blackish lines; in allotype, the black lateral borders even more extensive, involving the cephalic portion; scutum golden yellow pollinose, each lobe with restricted blackened areas; posterior sclerites of notum similarly yellow pollinose, more or less patterned with darker, especially the lateral and posterior portions of the mediotergite and the pleurotergite. Pleura chiefly blackened, the dorso-pleural region a trifle paler. Halteres with stem obscure yellow, knob weakly infuscated. Legs with coxae chiefly blackened, the tips abruptly and conspicuously pale yellow; trochanters yellow; femora obscure yellow, the tips narrowly clearer yellow, preceded by a broader dark brown subterminal ring; remainder of legs yellow; claws (male) with long

basal spine (legs of female broken). Wings with the ground obscure brownish yellow, with a heavy brown pattern that is in part ocelliform, the ocelli centered at arculus, origin of *Rs* and fork of M_{1+2} , and less evidently over the cord; cell *2nd A* with from six to eight marginal areas, cell *1st A* with three or four; cell *Cu* with a single darkening, additional to the terminal one; the darkened areas at ends of outer radial veins usually solid or with small pale centers; wing apex with small marginal spots at ends of veins and with a few others in the apices of the cells, especially M_3 and M_4 ; outer radial cells and bases of outer medial ones more extensively and uniformly suffused with brown; no abundant smaller dots in wing, as in *adspersa*, *juquicola* and others; veins yellow, somewhat darker in the patterned fields. Venation: Supernumerary vein in cell *C* about opposite two-thirds to three-fourths the length of *Rs*, the latter long, angulated at origin; R_{2+3+4} exceeding three times the basal section of R_5 ; vein R_{2+3} perpendicular at origin; veins R_{2+3} and R_4 elongate, rather close together and extending generally parallel to one another; cell *1st M*₂ relatively long, exceeding vein M_4 ; *m-cu* at from one-third to two-fifths the length of the cell.

Abdominal tergites chiefly dark brown, the basal rings not differentiated, the basal impressions only faintly indicated; sternites dark brown, the more proximal segments with yellow areas near their posterior portions. Ovipositor with genital shield dark brown; cerci slender, strongly upcurved to the acute tips, hypovalvae dark brown. Male hypopygium (Fig. 9) darkened, with the tergal lobes, *gt*, separated by an unusually broad and shallow emargination, the lobes broadly obtuse. Basistyle with interbasal rods, *i*, slender, sinuous, gradually narrowed to the acute tips which are not recurved. Outer dististyle, *od*, flattened, the apex acute and strongly recurved; outer margin of style with four or five conspicuous teeth; surface of style with elongate scattered setae over most of the length. Inner dististyle broadly flattened, the apex obtuse, with about four long pale setae.

HOLOTYPE, ♂, Terezópolis, Serra dos Orgãos, Rio de Janeiro, altitude 1000 meters, August 1942 (LÉRIO GOMES); ALEXANDER Collection. ALLOTYPE, ♀, Juquiá, altitude 300 meters, February 22, 1941 (TRAVASSOS). PARATYPE, ♂, Nova Teutonia, Santa Catari-

na, altitude 500 meters, October 18, 1935 (PLAUMANN); ALEXANDER Collection.

Epiphragma (Epiphragma) serristyla is readily distinguished from the other regional species so far made known by the pattern of the legs and the structure of the male hypopygium, especially the ninth tergite and outer dististyle. The nearest of such relatives is *E. (E.) nigripleuralis*, sp. n., which has a much paler wing pattern and yellow legs, together with differences in the male hypopygium.

98. *Pseudolimmophila supplementa*, sp. n.

Size relatively large (wing, female, 9 mm.); general coloration of thorax yellowish brown, with three darker brown praescutal stripes, the median region and outer borders of the lateral stripes still darker; antennae dark brown, the first flagellar segment more yellowed except at its outer end; pleura buffy gray, with two longitudinal black stripes; legs chiefly obscure yellow, the outer tarsal segments passing into brown; wings yellowish brown, restrictedly patterned with darker brown, appearing chiefly as seams to the veins; R_s in longitudinal alignment with R_5 ; R_{2+3+4} elongate, arcuated at origin; a supernumerary crossvein in cell R_3 near the outer end; cell M_1 present; abdominal tergites dark brown, the posterior borders of the segments paler; cerci elongate.

♀. - Length, about 8 mm.; wing, 9 mm.

Frontal prolongation of head dark brown; palpi black. Antennae relatively short, about one-half longer than the head; scape and pedicel dark brown, first flagellar segment obscure yellow basally, the apex darker, remainder of flagellum black; flagellar segments subcylindrical, the outer ones elongate-cylindrical; the more proximal segments with short verticils, these becoming much longer on the outer segments, there being about one-fourth longer than the segments. Head brownish gray, somewhat clearer gray on the front and posterior orbits; a blackened spot on anterior vertex, the latter a little less than three times the diameter of the scape.

Pronotum yellowish brown in front, darker brown medially and behind. Mesonotal praescutum yellowish brown, with three



darker brown stripes, the outer borders of the lateral stripes and the median line of the central area somewhat darker; pseudo-sutural foveae moderately large, darkened; scutum yellowish brown, the lobes patterned with darker brown; scutellum more testaceous brown; postnotum gray pruinose, dark brown on posterior border of mediotergite and caudal edge of the pleurotergite. Pleura buffy gray, with two longitudinal black stripes, the dorsal one very narrow, beginning above the fore coxae, becoming obsolete at the cephalic border of the pteropleurite; ventral stripe somewhat wider but broken, involving the ventral sternopleurite, a weak area on meron and a larger one surrounding the posterior spiracle; dorso-pleural membrane light brown. Halteres with stem obscure yellow, knob weakly darkened. Legs with the coxae yellowish testaceous, the fore pair, in cases, more darkened; trochanters yellow; remainder of legs obscure yellow, the outer tarsal segments passing into brown; claws small. Wings (Fig. 5) with the ground yellowish brown, the prearcular and costal fields a trifle clearer yellow; a restricted darker brown pattern, including the stigma and areas over the origin and fork of R_s , remainder of cord, outer end of cell 1st M_2 , forks of R_{2+3+4} , and M_{1+2} , the supernumerary crossvein in cell R_3 , and very indistinctly as marginal clouds on certain veins and seams along R_s and R_4 ; a dusky wash in cell M_4 ; veins yellowish brown or light brown, darker in the patterned areas, more yellowed in the brightened costal field. Venation: Sc_1 ending about opposite midlength of the elongate basal section of vein R_5 , Sc_2 a short distance from its tip; R_s almost in longitudinal alignment with R_5 ; R_{2+3+4} elongate, about one-half longer than the basal section of R_5 , arcuated at origin; a supernumerary crossvein in cell R_3 at near three-fourths the length; cell 2nd R_3 widened; cell M_1 nearly twice its petiole; $m-cu$ nearly one-half its length beyond the fork of M ; anterior arculus present.

Abdominal tergites dark brown, the posterior borders paler, producing ill-defined rings, especially evident on tergites two to six, inclusive; outer tergites more uniformly darkened; sternites more uniformly pale. Ovipositor with the cerci unusually long and slender, gently upcurved.



HOLOTYPE, ♀, Ribeirão Pires, Barreira das Camélias, November 1941 (D'AMICO). PARATOPOTYPE, 1 ♀.

Despite the presence of a supernumerary crossvein in cell R_3 of the wings, usually considered a subgeneric character in this tribe of *Tipulidae*, there seems to be no question but that the present fly is closely allied to *Pseudolimnophila megalops* Alexander 1942, likewise of southeastern Brazil. This latter fly lacks this crossvein and further differs in important details of coloration and venation. In the Ethiopian fauna where the genus *Pseudolimnophila* Alexander is very rich in species, a few have a supernumerary crossvein as in the present fly and for these forms the subgenus *Calolimnophila* Alexander was proposed.

99. *Polymera (Polymera) regina* Alexander 1926.

Porto Cabral, October 9-16, 1941 (TRAVASSOS). Hitherto only from Paraguay.

100. *Hexatoma (Eriocera) cabralensis*, sp. n.

Size small (wing, male, 6.6 mm.); general coloration black, the head above chiefly fiery orange; antennae with the scape obscure orange, pedicel dark brown, flagellum black; halteres and legs black; wings with a strong blackish tinge; macrotrichia of veins sparse; Sc short, Sc_1 ending opposite or just before the fork of Rs ; R_2 before the outer fork of Rs , R_2 a little shorter than R_{3+4} ; abdomen black, the terminal two segments abruptly orange.

♂. - Length, about 6.5 mm.; wing, 6.6 mm.; antenna, about 1.25 mm.

Rostrum very short, brown, mouthparts and palpi black. Antennae (male) 7-segmented, short; scape obscure orange, pedicel dark brown, flagellum black; first flagellar segment about one-third longer than the succeeding two combined, the latter subequal to one another in length; fourth segment again longer, about one-flagellar segments with long half longer than the terminal one; coarse setae but no spines. Head above fiery orange, more infuscated beneath and on sides of posterior vertex; vertical tubercle only moderately protuberant, entire.

Prothorax black, the sides, including pleura, brownish gray

outer tarsal segments blackened; wings fulvous yellow, unpatterned; Sc short, Sc_1 ending opposite origin of Rs ; branches of Rs rather strongly divergent at outer ends so cell R_3 at margin is nearly three times as extensive as R_2 ; abdomen yellowish brown, with a broad black subterminal ring; male hypopygium with the appendage of tergite unusually long and conspicuous, widest across the base, narrowest just behind the acute divergent horns; outer dististyle entirely blackened, the outer margin with about seven spines of various sizes; gonapophyses appearing as flattened pale blades with obtusely rounded tips, the outer margin with abundant microscopic pale spines.

♂. - Length, about 6 mm.; wing, 5.5 mm.; antenna, about 2.1 mm.

Rostrum brownish yellow; palpi brown. Antennae relatively short; scape and pedicel yellow, basal nine or ten flagellar segments weakly bicolored, yellow basally, the remainder brown, the amount of pale color decreasing on outer segments, the terminal ones uniformly darkened; flagellar segments long-oval, the outer ones progressively shorter, the terminal one smallest. Head brownish yellow.

Pronotum brown. Mesonotum pale yellowish brown, unpatterned, the surface opaque; pleura clearer yellow. Halteres with stem yellow, knob weakly darkened. Legs with the coxae and trochanters light yellow; remainder of legs yellow, the outer tarsal segments blackened; tibial spurs conspicuous. Wings tinged with fulvous yellow, the prearcular and costal fields clearer yellow; no stigmal or other darkenings; veins yellow. Venation: Sc_1 ending opposite origin of Rs , Sc_2 some distance from its tip, Sc_1 about four-fifths as long as Rs , the latter angulated at origin; branches of Rs virtually parallel to one another on basal half, thence strongly divergent, cell R_3 at margin nearly three times as extensive as cell R_2 ; cell $1st\ M_2$ subquadrate, shorter than any of the veins beyond it, veins at both ends of the cell very faint to scarcely visible; $m-cu$ a short distance before the fork of M .

Abdominal tergites yellowish brown, narrowly blackened laterally; sternites clearer yellow; segments seven and eight, with the posterior half of six, blackened, forming a conspicuous subterminal ring; hypopygium chiefly yellow. Male hypopygium (Fig.



10) with the appendage of the tergite, *9t*, unusually long and conspicuous, its length exceeding twice the width across base; outer lateral angles produced into acute pale horns that are directed chiefly laterad; posterior border of lobe gently emarginate; sides subparallel, the structure widest at base, narrowest just behind the horns. Outer dististyle, *od*, entirely blackened, the outer margin with about seven spines of various sizes, some much stronger than others, the outermost longer than the small curved terminal or axial spine. Inner dististyle subequal to or a trifle longer than the outer style, gently curved, narrow, darkened throughout. Gonapophyses, *g*, appearing as flattened pale blades, the tips obtusely rounded, the outer or lower edge with abundant microscopic pale spines, these continued almost to the apex but becoming more sparse but erect. Aedeagus, *a*, elongate, jutting beyond all other elements of the hypopygium, in slide mounts appearing segmented, with two transverse ridges or constrictions.

HOLOTYPE, ♂, Juquiá, altitude 40 meters, April 7, 1940 (TRAVASSOS); ALEXANDER Collection through CARRERA.

The present fly is readily told by the unusual length and the shape of the appendage of the ninth tergite, as well as by other details of structure of the male hypopygium. The nearest allies appear to be *Atarba* (*Atarba*) *brevicornis* Alexander 1929, of Paraguay, and *A. (A.) variispina* Alexander 1938, of southeastern Brazil.

103. *Atarba* (*Atarba*) *punctiscuta* Alexander 1922.

Boracea, altitude 900 meters, April 13, 1943 (ALMEIDA & TRAVASSOS).

104. *Elephantomyia* (*Elephantomyia*) *juquiensis*, sp. n.

Size relatively small (wing, male, 6.5 mm.); rostrum nearly as long as remainder of body; thorax and abdomen almost uniformly pale yellow, the former without pattern; legs yellow or brownish yellow; wings with a brownish yellow tinge, the stigma pale brown, inconspicuous; cell *1st M*₂ short-rectangular, a little shorter than vein *M*₄ beyond it; *m-cu* at near midlength of cell

*1st M*₂, longer than the distal section of *Cu*₁; male hypopygium with the dististyles slightly subterminal in position; basistyle with a densely seiferous area on mesal face; outer dististyle glabrous, bidentate at apex; inner dististyle nearly straight; penefilum long and relatively slender.

♂. - Length, excluding rostrum, about 6 mm.; wing, 6.5 mm.; rostrum, about 5.3 mm.

Rostrum only a little shorter than the body, dark brown. Antennae moderately long; scape very small, brown; pedicel larger, dark brown; flagellum dark brown basally, somewhat paler outwardly; thirteen flagellar segments, the first conical; succeeding segments elongate, with very long verticils. Head with the front, vertex and broad orbits light gray, the posterior vertex and occiput light brown; anterior vertex relatively narrow, about equal to the diameter of the scape.

Prothorax and mesothorax almost uniformly pale yellow, without pattern. Halteres pale. Legs with the coxae and trochanters pale yellow; remainder of legs yellow or brownish yellow, the outer tarsal segments a trifle darker; tibial spurs lacking. Wings with a brownish yellow tinge, the prearcular and costal fields clearer yellow; stigma oval, pale brown inconspicuous; veins pale-brown, more brownish yellow in the brightened fields. Venation: *Sc*₂ ending a short distance before the fork of *Rs*, longer than *Sc*₁; *Rs* strongly arcuated at origin; branches of *Rs* nearly parallel to one another for about two-thirds their lengths, thence slightly divergent; cell *1st M*₂ short-rectangular, a little shorter than vein *M*₄ beyond it; *m-cu* at midlength of cell *1st M*₂, longer than the distal section of *Cu*₁; cell *2nd A* moderately wide.

Abdomen yellow, narrowly more darkened on sides; no evident darker subterminal ring, as is common in the genus; hypopygium yellow. Male hypopygium (Fig. 11) with the basistyle, *b*, long and slender, narrowed to the obtuse apex which bears relatively few but long setae; outer face of style back from this apex glabrous; mesal face with an elongate area of conspicuous erect setae, the more distal ones smaller and more delicate. Dististyles slightly subterminal in position; outer style, *od*, slender, sinuous, glabrous, bispinous at apex, the axial spine a little stouter than the outer subterminal one. Inner dististyle, *id*, longer than the outer, nearly

straight, elongate, the tip obtuse or constricted near apex (the figure shows two aspects of the style). Interbase, *i*, elongate, broad-based, the apex expanded into a flattened hyaline blade, the cephalic border of the stem similarly membranous. Penefilum, *pe*, long and relatively slender but not as accentuated as in *tenuissima* and some others.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

The most similar species is *Elephantomyia* (*Elephantomyia*) *boliviensis* Alexander 1930, still known only from the female sex. This latter differs in its larger size and in details of coloration of the abdomen, as well as in venation, as the gently arcuated *Rs* and slightly more elongate cell *1st M₂* and vein *2nd A*.

ERIOPTERINI

105. *Sigmatomera* (*Sigmatomera*) *occulta* Alexander 1914.

Porto Cabral, March 1944 (TRAVASSOS & CARRERA). Described from Paraguay.

106 *Sigmatomera* (*Sigmatomera*) *varicornis* Alexander 1936.

1 broken specimen, Serra da Cantareira, altitude 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). Reared from larvae found in Bromeliads at São Paulo, July 1, 1943, by JOHN LANE; authors collection. The collector writes "The larvae make a tunnel on the sides of the dish and the adults emerge from the free end of this".

The literature on the biology of members of this genus should be consulted. (*) From this it will be noted that the immature stages of certain species occur in wet vegetable detritus in tree holes while others frequent comparable habitats in the leaf-axils of coarse terrestrial Liliaceous plants of the genus *Astelia*. The occurrence of the developmental stages in Bromeliads had not

(*) ALEXANDER, C. P. The genus *Sigmatomera* Osten Sacken, with observations on the biology by RAYMOND C. SHANNON. *Encycl. Ent., Diptera*, 5: 155-162, 8 figs.; 1930.

ALEXANDER, C. P. *Diptera of Patagonia and South Chile. Part I - Crane-flies*, pp. 1-240, 12 pls., 3 text-figures (reference on p. 178); 1929.

been definitely recorded but had been suspected by Edwards in the case of the Chilean species *Sigmatomera (Austrolimnobia) maiæ* (Alexander 1929). Particular reference should be made to the Alexander 1930 paper with the important observations on the feeding habits made by Shannon. These larvae are carnivorous and consume great quantities of mosquito larvae and presumably other organisms living in the same habitat.

107. *Teucholabis (Paratropesa) nigrocoxalis* Alexander 1936.

Porto Cabral, November 1941 (TRAVASSOS).

108. *Teucholabis (Teucholabis) angustapicalis* Alexander 1938.

Juquiá, altitude 40 meters, April 7, 1940 (TRAVASSOS).

109. *Teucholabis (Teucholabis) sanguinea* Alexander 1938.

Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). In the present small series there is a rather surprising range in the degree of development of the sternal pocket on the fifth abdominal segment in the male, in some being well-developed, in others virtually lacking.

110. *Neognophomyia hirsuta* (Alexander 1913).

Boracéia, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

111. *Erioptera (Erioptera) aglaia*, sp. n.

Allied to *annulipes*; general coloration brown, patterned with gray; knobs of halteres blackened; legs conspicuously banded with black and white, the former much exceeding the latter in amount; femora with three black rings, the outermost annulus nearly apical in position; tibiae with four broad black rings that alternate with four narrow white ones; basitarsi dark at both ends, more narrowly pale in the central portion; wings with the entire disk relatively dark brown, variegated by whitish marginal spots, including a more conspicuous costal series, the light and dark areas subequal in extent; smaller white spots in outer ends of cells R_3 , R_4 , M_2 , M_3 .

and *Cu*; cell M_2 open by the atrophy of *m*; vein 2nd *A* gently sinuous on its outer third.

♀. - Length, about 4 mm.; wing, 4 mm.

Rostrum brown; palpi dark brown. Antennae with basal segments brownish black; remainder broken; proximal flagellar segments oval. Head dark colored, discolored in type.

Pronotum and mesonotum almost uniformly dark brown, discolored in the unique type and evidently in fresh specimens gray with brown pattern; scutellum paler. Pleura brown, with a weak paler longitudinal stripe, presumably much more distinct in fresh specimens. Halteres with stem yellow, knob blackened. Legs with the fore coxae dark brown, the remaining coxae and all trochanters more testaceous yellow; femora yellow with three black rings, these exceeding the pale ground areas, the broad outermost dark ring nearly apical; tibiae with four black rings alternating with four white ones; basal black ring narrow, the others very broad and nearly equal to one another in extent, each from three to four times the intervening white rings, which again are of virtually equal extent; basitarsi broadly blackened at ether end, with a slightly narrower central pale ring; second tarsal segment pale, the outer third and remainder of tarsi blackened. Wings (Fig. 12) with an unusually strong and uniform dark brown tinge, variegated by whitish marginal spots, the costal series most extensive, alternating with subequal darkened markings; very small whitish marginal spots in outer ends of cells R_3 , R_4 , M_2 , M_3 and *Cu*, very reduced to scarcely evident in cells R_5 and M_4 ; central portion of disk unvariegated; veins brown, the trichia still darker; interspaces of veins *C*, *Sc* and *R* light yellow; costal fringe conspicuous, alternating yellow and black. Venation: Cell M_2 open by the atrophy of *m*; vein 2nd *A* gently sinuous on its outer third.

Abdominal tergites brown, darker on lateral and posterior portions; sternites more uniformly brownish yellow. Ovipositor with cerci elongate, yellowish horn color.

HOLOTYPE, ♀, Boracea, altitude 900 meters, April 13, 1942 (ALMELDA & TRAVASSOS).

Erioptera (Erioptera) aglaia is closer to the Antillean *E. (E.)*



annulipes Williston 1896 than it is to species such as *E. (E.) cladophora* Alexander 1920 or *E. (E.) cladophoroides* Alexander 1921, having vein 2nd A strongly sinuous and more or less branched. The present fly is readily told by its somewhat distinctive leg and wing patterns. In the Winthem Collection of the Vienna Museum there is a fragmentary specimen from Brazil, without further data (labelled *annulipes*) that seems unquestionably to represent this new species.

112. *Erioptera (Erioptera) cladophora* Alexander 1920.

Juquiá, altitude 300 meters, February 22, 1941 (TRAVASSOS). Formerly from Amazonian Brazil (Manaos).

113. *Erioptera (Erioptera) multiannulata* Alexander 1937.

Boracea, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

114. *Erioptera (Mesocyphons) euphrosyne* sp. n.

Allied to *immaculata*; praescutum and scutum conspicuously patterned; antennal flagellum pale; femora yellow, the fore and middle pairs with a single dark ring, the posterior femora with two such annuli; wings with a strong brownish tinge, restrictedly patterned with darker brown and whitish subhyaline; male hypopygium with the dististyle three-branched, the axial arm microscopically toothed along upper edge; outer branch narrowed into a powerful spine provided with delicate setulae as its base; third elongate paddle-like blade at extreme base of dististyle; gonapophyses simple, blackened, the outer margin of distal half conspicuously hairy.

♂. - Length, about 3 mm.; wing 3.2-3.3 mm.

♀. - Length, about 3.5 mm.; wing, 3.5 mm.

Rostrum and palpi black. Antennae with scape and pedicel black, flagellum abruptly paler, obscure yellow or pale brownish yellow. Head dark brown, the front and posterior orbits very narrowly gray.

Pronotum buffy yellow above, narrowly darkened on sides, the extreme border yellow; pretergites narrowly yellow. Mesonotal

praescutum dark brown with three paler brown to buffy brown stripes, the dark interspaces becoming obsolete some distance before suture so the whole posterior portion of praescutum is pale brown; scutal lobes uniformly buffy brown; scutellum more testaceous yellow; mediotergite dark brown, more or less variegated with paler. Pleura and pleurotergite conspicuously striped with obscure brownish white on a brownish black ground; dorsal black stripe narrow, the ventral one very extensive but a little paler, especially on the meron; dorsopleural region pale. Halteres yellow, in cases with the knobs very insensibly darker. Legs with the coxae brownish black, the remaining coxae and all trochanters paler; remainder of legs yellow, the femora with a narrow brownish black subterminal ring, on posterior femora with two such annuli more or less indicated. Wings with a rather strong brownish tinge, more or less patterned, including slightly darker areas at stigma and along cord, together with extensive subhyaline markings on disk both before and beyond the cord; prearcular and costal fields somewhat clearer yellow than the ground; veins pale brownish yellow to yellow, slightly darker in the patterned areas. Venation: Typical of the subgenus; *m-cu* almost transverse to the wing length; vein 2nd A long, the distal third slightly sinuous.

Abdomen brownish black, subterminal segments brownish yellow; hypopygium more intensely blackened. Male hypopygium (Fig. 15) with the dististyle, *d*, distinctive, three-branched; base strongly swollen, thence constricted, the main axis a flattened narrow paddle with its dorsal or outer edge microscopically toothed, the more basal denticles acute and appressed, the outer ones becoming smaller and more obtuse, those at apex merely crenulate; at near midlength of style, the powerful second branch arises, its proximal two-fifths stouter, the remainder narrowed into a strong glabrous spine, at base of latter with conspicuous setae; third branch arising at extreme base of style on lower or inner edge, appearing as a long simple rod that very gradually widens into a blade, its apex broadly obtuse. Gonapophysis, *g*, single on either side, appearing as a simple blackened rod, the outer margin of distal half conspicuously hairy, the acute apex slightly twisted.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, October 5, 1940



(TRAVASSOS). ALLOTOPOTYPE, ♀, on pin with type. PARATOPO-
TYPES, 2 ♀ ♀; ALEXANDER Collection.

Erioptera (Mesocyphona) euphrosyne is readily told from the other regional members of the subgenus by the structure of the male hypopygium. It is superficially most like *E. (M.) bicinctipes* Alexander 1913, or *E. (M.) fuscivena* Alexander 1923, yet entirely distinct.

115. *Erioptera (Mesocyphona) fuscivena* Alexander 1923.

Serra da Cantareira, altitude 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). Formerly from Paraguay and northern Argentina.

116. *Erioptera (Mesocyphona) thalia*, sp. n.

Allied to *immaculata*; mesonotal¹ praescutum reddish brown with a more or less distinct darker median stripe; thoracic pleura reddish brown, striped longitudinally with yellow; knobs of halteres brownish black; wings rich brown, the stigmal region slightly darker; male hypopygium with the dististyle three-branched, the longest or axial arm very slender; outer branch entirely blackened, its outer face setulose, the tip with two strong spines; gonapophyses pale yellow, slightly constricted before the feebly dilated obtuse tips.

♂. - Length, about 2.8 mm.; wing, 3 mm.

Rostrum and palpi black. Antennae with scape and pedicel black, flagellar segments, especially the outer ones, a trifle paler. Head brown.

Pronotum dark brown, the lateral border narrowly yellow, continuous with the dorsal pleural stripe. Mesonotal praescutum dark reddish brown, with a more or less distinct, narrow, darker, median stripe, the lateral borders behind the pseudosutural foveae likewise a little darker; scutal lobes reddish brown, the mesal edge a little darker; median region of scutum and the scutellum chiefly obscure yellow, the latter vaguely darkened medially; parascutella and mediotergite more reddish brown. Pleura reddish brown, with two narrow but conspicuous longitudinal yellow stripes, the more

ventral one beginning behind the fore coxae, extending to the base of abdomen, passing beneath the root of halteres, bordered by darker brown; dorsal pale stripe including the dorsopleural membrane and adjoining dorsal margins of the pleura. Halteres with stem yellow, knob brownish black. Legs with the fore coxae blackened, the remaining coxae and all trochanters yellow; remainder of legs broken. Wings with a rich brownish tinge, the costal portion more yellowed; stigmal region weakly darker brown; remaining veins beyond cord very weakly bordered by the ground, leaving somewhat paler streaks in the cells; veins pale yellowish brown, the macrotrichia a trifle darker; veins relatively stout. Venation: Cell M_2 open by atrophy of basal section of M_3 .

Abdomen, including hypopygium, brownish black. Male hypopygium (Fig. 14) with the dististyle, d , three-branched, the axial arm unusually long and slender, very gradually narrowed to the acute tip, yellow, the apical third more darkened; both additional branches arising from extreme base of the axis, the outer one entirely blackened, extending to midlength of the main branch or a trifle beyond, its tip subtruncate and with two spinous points, the outer surface with microscopic setulae; the inner third arm smallest, appearing as a delicate yellow rod that is gradually narrowed to the subacute tip, the arm only about one-third as long as the main branch. Gonapophysis, g , pale yellow, weakly expanded on proximal two-thirds, thence constricted, terminating in a feebly expanded obtuse apical head that is slightly darkened.

HOLOTYPE, ♂, Juquiá, altitude 40 meters, April 7, 1940 (TRAVASSOS); ALEXANDER Collection through CARRERA.

Erioptera (Mesocyphona) thalia, while generally similar to the other regional species that are allied to *E. (M.) immaculata* Alexander 1913, is quite distinct in the various details of structure of the male hypopygium, especially the dististyle and gonapophysis.

117. *Erioptera (Mesocyphona) triangularis* sp. n.

Allied to *immaculata*, mesonotal praescutum almost uniformly dark brown, the median region with a grayish stripe, the scutellum broadly yellow; thoracic pleura striped longitudinally with gray on a dark brown ground; knobs of halteres darkened; legs yellow,

the fore and middle femora with a single brown subterminal ring, the posterior femora with two narrow dark annuli; wings almost uniformly dark brown; male hypopygium with the dististyle three-branched, the axial arm stout, forking into two slender blades, the outer one produced into a powerful triangular spine, the outer surface distad of this point with microscopic conical spinulose points; third branch of dististyle a long powerful spine arising near base of style; a single pair of gonapophyses, each appearing as a powerful blackened rod, its outer surface with a row of short delicate setulae.

♂. - Length, about 2.5 mm.; wing, 2.7 mm.

♀. — Length, about 3 mm.; wing, 3.3 mm.

Head dark brown, the front and orbits gray.

Pronotum brownish gray, patterned sublaterally with darker, the lateral borders narrowly yellow. Mesonotal praescutum almost uniformly dark brown, the usual pattern very indistinct, appearing as a median grayish stripe against the dark ground; scutum chiefly dark brown; scutellum broadly yellow; postnotum dark brown. Pleura dark brown, with a broad gray longitudinal stripe extending from behind the fore coxae to the halteres; dorsopleural membrane pale. Halteres obscure yellow, knob darkened. Legs with the coxae and trochanters brownish testaceous, the fore pair darker; femora obscure yellow, with a single brown subterminal ring on fore and middle legs, two such rings on the posterior femora; remainder of legs yellow. Wings with an almost uniform light brown tinge, the prearcular and costal regions a little more yellow; veins pale brown. Venation: Cell M_2 open by the atrophy of basal section of M_3 ; vein 2nd A only moderately sinuous on distal fourth.

Abdomen, including hypopygium, brownish black. Male hypopygium (Fig. 13) with the dististyle, d , distinctive; three-branched, the axial trunk stout, forking at or shortly beyond midlength into two elongate-flattened narrow blades, slightly separated; outer blade near its origin produced into a powerful triangular spine, the outer surface distad from this with microscopic conical spinulose points, erect or even slightly retrorse, apparently in a double row; lower blade more slender; third arm a long powerful spine, gradually narrowed to the acute tip, entirely glabrous, arising near

base of style on outer margin. Gonapophysis, *g*, single on either side, appearing as a powerful blackened rod from an enlarged base, gradually narrowed to the acute tip, the outer surface of distal two-thirds with a row of short, exceedingly delicate, pale setulae.

HOLOTYPE, ♂, Serra da Cantareira, altitude 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). ALLOTOPOTYPE, ♀.

Although generally similar to species such as *Erioptera* (*Mesocyphona*) *immaculata* Alexander 1913 and *E. (M.) bicinctipes* Alexander 1913, the present fly is quite distinct in the structure of the male hypopygium, particularly the dististyle and the gonapophysis.

118. *Molophilus* (*Molophilus*) *integristylus*, sp. n.

Belongs to the *plagiatus* group; size relatively small (wing, male, unded 4 mm.); general coloration reddish brown, the dorsal pleurites somewhat darker; antennae (male) of moderate length, the more proximal flagellar segments with unusually long verticils; legs obscure yellow; wings brownish yellow; *m-cu* a little shorter than the petiole of cell *M*₃; abdomen dark brown, the hypopygium a little brighter; male hypopygium with the basal dististyle a simple, nearly straight blackened rod that is narrowed gradually to the acute spinous tip; phallosomic structure a setiferous cushion, its apex deeply emarginate; aedeagus conspicuously dilated at near midlength.

♂. - Length, about 3.5-4 mm.; wing, 3.8-4.4 mm.; antenna, about 1.1-1.3 mm.

Rostrum and palpi back. Antennae (male) of moderate length, as shown by the measurements; scape and pedicel brownish yellow, flagellum brown; flagellar segments long-oval, the more proximal and intermediate segments with unusually strong and powerful black verticils, on flagellar segments three to five, inclusive, these approximately three times the length of the segments. Head light yellowish brown.

Pronotum and pretergites whitish. Mesonotum chiefly reddish brown, without distinct pattern; humeral region of praescutum more

yellowed; setae of scutum long and conspicuous, black, erect. Pleura and pleurotergite obscure yellow, the dorsal pleurites slightly more darkened. Halteres yellow. Legs with the coxae and trochanters yellow; remainder of legs obscure yellow, terminal tarsal segments more infuscated; dilated subbasal ring of fore tibiae a little darker than remainder of segment. Wings obscure brownish yellow, clearer yellow at base and in proximal costal fields; veins brownish yellow, macrotrichia brown. Venation: *r-m* before the level of *R*₂; *m-cu* gently sinuous, a little shorter than the petiole of cell *M*₃; vein 2nd *A* relatively long, ending about opposite midlength of *m-cu*.

Abdomen dark brown, the hypopygium brightening to brownish yellow or obscure yellow. Male hypopygium (Fig. 16) with the beak of the basistyle, *b*, simple, relatively stout, its base surrounded by unusually long and conspicuous setae. Other dististyle with the other arms blackened, very unequal in size and shape, the inner a long, traight, fingerlike lobe; outer arm a broadly flattened blade, its apex truncate. Basal dististyle, *bd*, a simple, nearly straight, blackened rod, narrowed gradually to an acute spine; surface with relatively few small and scattered punctures. Phallosome, *p*, a depressed cushion, the apex with a deep U-shaped notch, the surface with long setoid extensions, together with smaller setae and setulae. Aedeagus relatively short, conspicuously dilated just before midlength.

HOLOTYPE, ♂, Boracea, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS). PARATYPE, ♂, Nova Teutonia, Santa Catarina, altitude 500 meters, May 15, 1939 (FRITZ PLAUMANN).

The most similar regional species of the group having the phallosomic structure an emarginate setiferous cushion are *Molophilus* (*Molophilus*) *emarginatus* Alexander 1937 and *M. (M.) hystrix* Alexander 1939, which differ conspicuously in the structure of the dististyles, particularly the basal pair.

119. *Molophilus* (*Molophilus*) *hystrix* Alexander 1939.

Boracea, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

120. *Molophilus (Molophilus) lauri*, sp. n.

Belongs to the *gracilis* group and subgroup; general coloration of mesonotum reddish brown, the pleura darker; antennae (male) of moderate length, the more proximal flagellar segments with long, unilaterally arranged verticils; wings grayish; male hypopygium with the basal dististyle a strongly curved rod, the mesal edge bearing two brushes of setae; phallosome a depressed-flattened blackened plate, near the apex on either side of midline with a strong, inwardly-directed spine.

♂. — Length, about 3.5 mm.; wing, 4.1 mm.; antenna, about 1.2 mm.

Rostrum and palpi black. Antennae of moderate length; scape and pedicel brownish yellow; basal two segments of flagellum obscure yellow, the remainder passing into black; flagellar segments subcylindrical, the verticils of the basal segments very long and conspicuous, unilaterally distributed, lacking on outer segments; in addition to these powerful verticils, all segments with long erect pale setae. Head brown, more or less variegated with buffy.

Pronotum whitened above, dark brown on sides, the white color extending back over the pretergites to the wing-root. Mesonotum almost uniformly reddish brown, without pattern. Pleura infuscated, the ventral portions, including much of the sternopleurite, meral region and metapleura, more yellowed. Halteres obscure yellow. Legs with the coxae and trochanters yellow; femora brownish yellow, the tibiae and tarsi somewhat darker brown. Wings with a grayish tinge, the prearcular and costal fields more yellowed; veins brownish yellow, the macrotrichia dark brown. Venation: R_2 lying immediately beyond to nearly opposite $r-m$; R_{4+5} short, subequal to $r-m$; petiole of cell M_3 about one-fourth longer than the oblique $m-cu$; vein $2nd\ A$ elongate, sinuous.

Abdomen dark brown, the hypopygium more yellowed. Male hypopygium (Fig. 17) with the ventral lobe of basistyle, b , produced into a long, relatively stout lobe beyond the level of the dististyles, its tip obtusely rounded; mesal face at and near apex with more abundant retrorse setae; mesal face of basistyle with a small blackened point or tooth. Outer dististyle with the stem slender, sinuous, the two arms very unequal, the outer one longer, ap-



pearing as a slender erect black spine; inner arm a flattened black spatulate blade. Basal dististyle, *bd*, a strongly curved rod that is narrowed to a blackened spine; on mesal edge with two brushes of setae, an outer one of fewer longer bristles placed at near two-thirds the length in the axil of curvature; second group at near one-third the length, shorter but more numerous, from a blackened and slightly raised flange. Phallosome, *p*, unique, appearing as a depressed-flattened blackened plate, slightly widened outwardly, its apex nearly truncate; lateral shoulders slightly produced near apex of structure, on either side of the broad median space, with an acute, inwardly-directed black spine; on the opposite surface and slightly more basad and laterad with a second much smaller spine that is directed laterad; sides of structure on outer half with about a dozen spinulae on either side. Aedeagus broken beyond base.

HOLOTYPE, ♂, Boracea, altitude 900 meters, April 13, 1942 (ALMEIDA & TRAVASSOS).

I take unusual pleasure in naming this very distinct crane-fly for the collector, Mr. Lauro Travassos Filho, to whom we owe much of our recent spectacular increase in knowledge of the Tipulidae of São Paulo. The species is entirely different from all others members of the *gracilis* group. Although superficially resembling various members of the *plagiatus* group, the fly is unique in the structure of the male hypopygium, particularly the basal dististyle and phallosome.

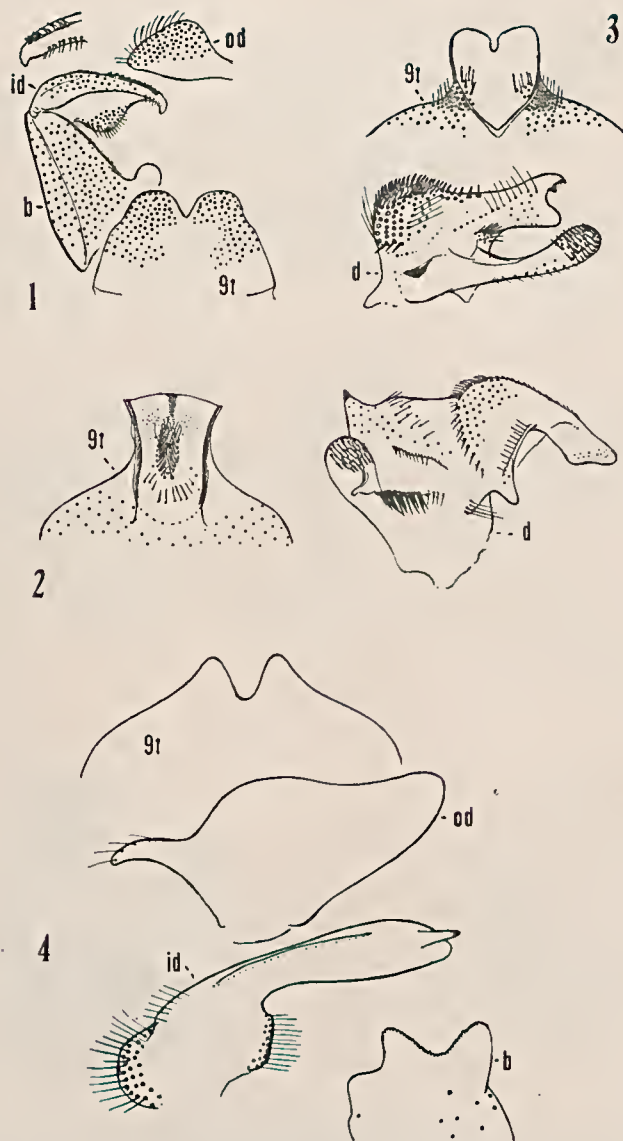


Fig. 1 *Tanypremna (Tanypremna) salome*, sp. n.; male hypopygium.

Fig. 2. *Holorusia (Holorusia) calliope*, sp. n.; male hypopygium.

Fig. 3. *Holorusia (Holorusia) phaëton*, sp. n.; male hypopygium.

Fig. 4. *Ozodicerca (Ozodicerca) caudifera*, sp. n.; male hypopygium.

Symbols: *b*, basistyle; *d*, dististyle; *id*, inner dististyle; *od*, outer dististyle; *t*, 9th tergite.

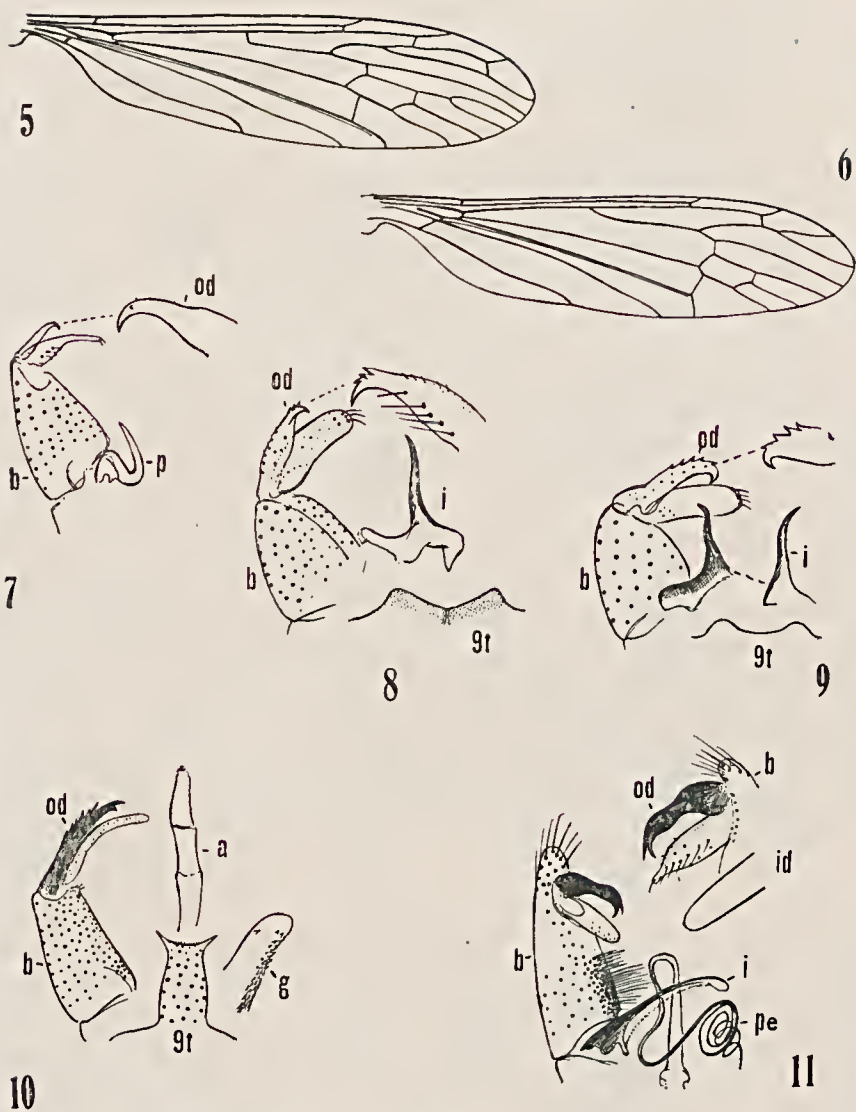


Fig. 5. *Pseudolimnophila supplementa*, sp. n.; venation.

Fig. 6. *Hexatoma (Eriocera) cabralensis*, sp. n.; venation.

Fig. 7. *Helius (Helius) micranthus*, sp. n.; male hypopygium.

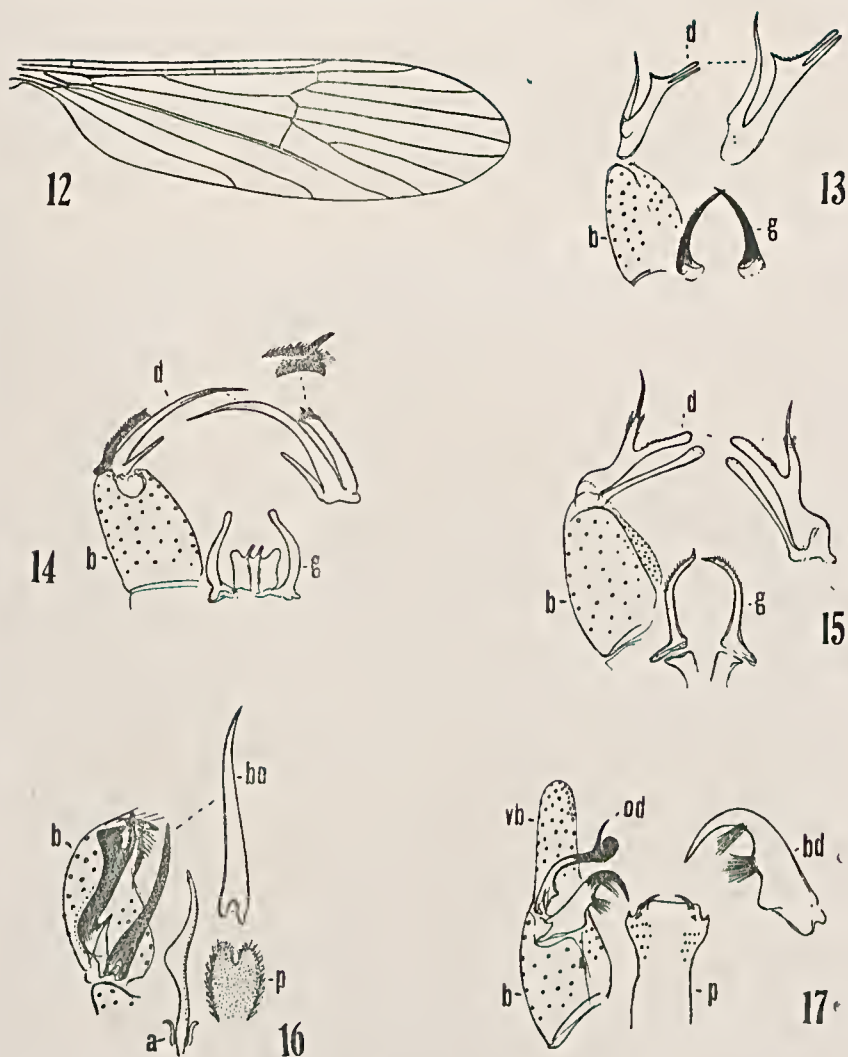
Fig. 8. *Epiphragma (Epiphragma) nigripleuralis*, sp. n.; male hypopygium.

Fig. 9. *Epiphragma (Epiphragma) serristyla*, sp. n.; male hypopygium.

Fig. 10. *Atarba (Atarba) longitergata*, sp. n.; male hypopygium.

Fig. 11. *Elephantomyia (Elephantomyia) juquiensis*, sp. n.; male hypopygium.

Symbols: a, aedeagus; b, basistyle; g, gonapophysis; i, interbase; id, inner dististyle; od, outer dististyle; p, phallosome; pe, penefilum; t, 9th tergite.

Fig. 12. *Erioptera* (*Erioptera*) *aglaia*, sp. n.; venation.Fig. 13. *Erioptera* (*Mesocyphona*) *triangularis*, sp. n.; male hypopygium.Fig. 14. *Erioptera* (*Mesocyphona*) *thalia*, sp. n.; male hypopygium.Fig. 15. *Erioptera* (*Mesocyphona*) *cuphrosyne*, sp. n.; male hypopygium.Fig. 16. *Molophilus* (*Molophilus*) *integritylus*, sp. n.; male hypopygium.Fig. 17. *Molophilus* (*Molophilus*) *lauri*, sp. n.; male hypopygium.

Symbols: a, aedeagus; b, basistyle; bd, basal dististyle; d, dististyle; g, gonapophysis; od, outer dististyle; p, phallosome; vb, ventral lobe of basistyle.